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ABSTRACT

In an effort to determine whether advanced placement and concurrently enrolled high school students learn as well as college students in distance education courses, Utah Valley State College (UVSC) administered an open-ended survey in the spring of 1998 to all students learning off-campus via the computer or television, soliciting information on the interactive learning experience, demographics, and the level of satisfaction with the course and teacher. After the survey was administered, fourteen interactive teachers were surveyed on similar issues. Findings indicate that: (1) high school students had more complaints about interactive learning, yet were more complimentary of teachers than were the college students; (2) high school students value interactive classes more than college students, yet do not perform as well; (3) high school students reported feeling isolated and found the interactive courses to be difficult; (4) teacher feedback was similar to student feedback regarding the necessity of basic student skills for success in an interactive environment; (5) both teachers and students like the technology and access; (6) it is questionable whether high school students are prepared or ready for interactive college courses; and (7) further study should be conducted. Appended are the survey instruments. Contains 12 references. (EMH)

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ED 429 630

Fine Tuning Interactive Delivery for High School Students In a rapidly Growing College and Distance Learning System: A Student Readiness Approach.

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May 14, 1999

R. J. Hammond

Utah Valley State College (UVSC) is located in Orem, Utah. It's student enrollments have been growing at an extraordinary rate over the last few years. When I came here in 1993 enrollments were about 10,000. In Fall 1998 they exceeded 18,000. Estimates of future enrollments indicate a maximum of 40,000 by the year 2020 which will taper off slightly yet remain high. This enormous increase in enrollments results from two major factors, demographic trends and cultural motivations. First, demographic forces are fueling much of the growth. Most of UVSC's student are residents of Utah County (UVSC's location). Utah County's population will nearly double by 2020 adding over 200,000 new residents. Also, many of our students are part of an unique extended baby boom. Utah experienced the baby boom of 1946-1964 along with the nation. But Utah's baby boom did not come to an end in 1964. There was a continuation of increasing births well beyond 1964 which lasted for another 20 years (Utah Data Guide, 1998). Utah is a state where birth rates tend to be twice the national average or higher. This lead to a very sizable young population. Today, Utah's baby boom is being followed by an "echo boom" where children are being born to the boomers. Thus, the county has many college aged young people and that explains a significant part of the answer to why the college is growing so rapidly.

Second, is a unique cultural factor found in the history of Brigham Young University, located 8 minutes from UVSC. Brigham Young University (BYU) is privately owned and operated by The Church of Jesus Christ of Latter-Day Saints (Mormons). Historically it was able to meet the educational demands of both its members and interested residents from Utah County. But the Mormon church has been growing rapidly worldwide and has reached a point in the last decade where it is at maximum capacity in its own enrollments. Fewer and fewer county residents were able to get into BYU yet, they wanted to live close to home while attending college. Close to home in this case also means close to many young people of similar ages and interests. Most of UVSC students live among and associate with BYU students. This provides an attractive, sizable, and youth-oriented religious culture. What this has lead to is a high percentage of Utah County residents who stay in Utah County, attend UVSC and live near home. This culturally appealing atmosphere draws about as many students from other counties in the state to Utah County as it provides to all of the other 8 colleges and universities throughout the state system (UVSC Factbook, 1998). In other words, college aged people are drawn by the cultural environment here. This combined with the demographic factors mentioned above contribute to the rapid growth which UVSC is currently experiencing.

The official Utah policy from the governor's office has been electronic delivery (as opposed to bricks and mortar). In that context, and with that growth has come many new opportunities. For distance learning that has brought very welcomed growth and expanded services, following similar national trends (see Blakesley and Zahn, 1993; Musial and Kampmueller, 1996; Parrot, 1995; PBS Report, 1993; Watkins, 1994; Whitaker, 1995; and Wilson, 1991). Today, there are currently 12 telecourses, 16 Internet courses, and 23 interactive courses at UVSC. Thousands of students take these courses each year and data indicate that the trend is increasing (Palmer, 1999). Since its first distance learning course offered in the early 1980s, UVSC has been committed to the use of scientific inquiry in establishing policy, procedures, and pedagogy. Of special concern are the high school students who take interactive courses from their distant sites. From UVSC's point of view the structure of distance learning fell

into place with an amazing level of technological efficiency. But the function, especially the quality of the delivery has moved more slowly and has been problematic. For example, it became apparent that our high school learners were not experiencing the same learning experience as were the college (on-site) learners. Numerous comparisons of average GPA's by semester indicated a significantly lower average GPA among high school learners. Course evaluations also indicated that high school interactive learners were struggling to learn from a distant face which they watched on a TV monitor. Yet, these early assessments did not let us clearly see what was wrong and how to improve upon it.

In its early years, the basic assumption of the UVSC interactive learning delivery paradigm was that a traditional, lecture based college class was adequate for students within the classroom and would be for students who had access to that class, even through television. Another assumption was that high school advance placement and concurrently enrolled students could learn as well as college students, even through a TV monitor. Years later we have come to realize that both assumptions are erroneous. The national literature consistently directs distance learning programs toward student specific assessment, intervention, and modification in course delivery. These guiding principles, combined with our findings of consistently lower GPA's among the high school students, lead to the administration of a survey.

Methodology

We administered an open ended survey to all of the interactive students, college and high school, during Spring semester, 1998 (see appendix for survey). The survey solicited information in the following content areas:

1. Interactive learning experience-current & total number of Interactive Learning courses taken
2. Demographics-gender & year in school
3. Subjective evaluation of course-best and worst aspects of course
4. Teacher evaluation-what like most about teacher & what you would have teacher do differently
5. Student's approach to interactive learning course- what are 3 personal strategies
6. Lessons learned-what would students do differently if they took another interactive learning course.
7. Subjective self-reported estimate of performance-write your expected grade

The survey was administered to all of the interactive students over a 7 day period. Data were content analyzed during Summer of 1998. Later that Summer, 14 interactive teachers were surveyed on similar issues. In Fall, 1998 a Student Readiness Questionnaire (SRQ) was administered to all interactive students (the teacher survey and SRQ results are discussed later in this paper). Out of 751 enrolled students surveys were completed by 626 students, approximately 83 percent response rate. In Table 1, we see that the high school students numbered 368 and the college students, 258. Other results are presented and discussed below.

Results

Table 1 presents the comparative results between college and high school students on various demographic data. There was a higher proportion of females among the high school students 65 percent compared to only 48 percent in college. The high school findings appear to be more in line with national averages than do the college findings which reflect more of the

Table 1: Demographic Descriptors

College On Campus N=258 **Descriptors #/%**	**High School Site N=368** **Descriptors #/%**
Male -134/52 **Female**-124/48	**Male**- 127/35 **Female**- 241/65
Current # of DL Classes (*Avg. =1.23*) 1. 220/85 2. 26/10 3. 5/2 4. 6/2 5. 1/.4 6. 0/0	**Current # of DL Classes** (*Avg. =2.26*) 1.132/36 2.111/30 3. 52/14 4. 47/13 5. 22/6 6. 4/1
Expected Grade(*Avg. Exp. =3.46/B+*) A 107/42 (*Actual Avg GPA =3.10/B*) A- 20/8 B+ 30/12 B 69/27 B- 5/2 C+ 4/2 C 8/3 C- 2/.7 D+ 0/0 D 0/0 D- 0/0 E 2/.7 No Grade Reported 11/4	**Expected Grade** (*Avg. Exp. =3.31/high B*) A 129/35 (*Actual Avg. GPA =2.70/B-*) A- 30/8 B+ 34/9 B 112/30 B- 19/5 C+ 3/.8 C 23/6 C- 5/1 D+ 0/0 D 4/1 D- 0/0 E 2/.5 No Grade Reported 7/2
Prior DL Courses (*Avg=.29*) 0.209/81 1. 35/14 2. 7/3 3. 2/.7 4. 4/2 5. 1/.4 6. 0/0	**Prior DL Courses** (*Avg. =.83*) 0.204/55 1. 89/24 2. 38/10 3. 14/4 4. 16/4 5. 3/.8 6. 3/.8 10. 1/.2
Year In School-College Freshman 105/41 Sophomore 105/41 Junior+ 18/7 Certificate 2/.7 Other 28/11	**Year In School-High School** Junior 99/27 Senior 269/73

UVSC unique trend. In the US, since 1979, females have outnumbered males and today about 60 percent of all college students are female (Koerner et al., 1999). At UVSC there has been a consistent trend of having slightly more males than females (UVSC Factbook, 1999). In Fall 1998, UVSC had 54 percent males and 46 percent females. In terms of interactive course taken prior to this semester, the college students were less experienced in interactive learning than were the high school students. The college students had taken less than half as many courses on the average, .29 college and .83 high school. Table 1 indicates that college students were also taking fewer interactive learning courses, 1.23 compared to 2.26 high school. Also, most college students were taking only one interactive course, 85 percent. Most high school students were taking more than one interactive course, 64 percent. In spite of this the college students both expected and actually earned higher grades on the average: college students reported 3.46 expected and had 3.10 earned GPA while high school students reported 3.31 expected and 2.70 earned. Whereas most college students were either freshmen or sophomores (41 percent in both categories), high school students were more likely to be seniors 73 percent.

Table 2 presents comparative data from the question, "For you what is the single best aspect of a distance learning course?" The college students reported aspects that the average college student would find appealing about a course such as: 34 percent made a variety of comments about the course, 11 percent said credit, 19 percent said convenient, 6 percent said teacher, and 4 percent said costs. A few comments suggested that something uniquely valuable came from the interactive experience including: 13 percent reported technology and 13 percent reported other students at the sites.

High school students on the other hand appeared to value the credit aspect of the interactive course far more than did the college students. The single greatest category at 44 percent was college credit. Many of the high school students specifically mentioned college credit (166 responses) and also listed double credit (87 responses), meaning credit for high school graduation and college degree. Also reported were: convenient, 26 percent; courses, 10 percent; teacher, 2 percent; costs, 12 percent; and learning, 3 percent as other bests aspects. Notably absent from the college students responses was any response about learning. This coincides with national studies of incoming freshmen which indicate that traditional college students see their college education as more of a step to a financially secure future than a pursuit of learning and the meaning of life (Easterlin & Crimmins, 1991). Today's college student is very pragmatic. Arguably UVSC's high school interactive learners are no different except they see college as a bonus activity while in high school. It provides them with both high school and college credit and jump starts their college degree pursuits.

Table 3 presents comparative data from the question, "For you what is the single worst aspect of the distance learning course?" By far, for college students, it was technology with 38 percent of the responses in this category. Next was the teacher at 20 percent. There was a tie in the next category between it being impersonal or boring and finding the high school students to be immature at 17 percent each. Materials (assignments) which were delayed with slow grade notification was reported by 9 percent. It is important to mention that 258 college students took the survey and only 90 "worst aspect" comments were made.

For high school students the greatest problem was the teacher at 27 percent. This may be due to the teacher and perhaps one other factor touched upon in the second worst aspect,

Table 2: Best Aspects of Distance Learning Courses:

Category: On Campus (College Students)	#/%	Category: Site Students (High School students)	#/%
Credit	15/11	**Credit**	203/44
Opportunity for HS Students(12)		College Credit (116)	
Credit for me(3)		Double Credit (87)	
Convenient	27/19	**Convenient**(82)	120/26
Location / Scheduling		Location (38)	
Courses	48/34	**Courses**	44/10
Differing views / ideas (24)		Interesting(5)/Choice (19)	
Fun, relaxed learning (9)		Uniqueness (5)	
Small classes (8)		Fun, motivating, exciting (13)	
Participation / Discussion (7)		Scheduling (2)	
Teacher	9/6	**Teacher**	10/2
Costs	5/4	**Costs**	56/12
Technology (11)	18/13	**Technology**	16/4
Video reviews (7)		Television(11)	
		Media(4)	
Learning	0/0	**Learning**	13/3
Students	18/13	**Students**	0/0
Variety at sites			
Totals	140/100	Totals	462 /100

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Table 3: Worst Aspects of Distance Learning Courses:

Category: On Campus (College Students)	#/%	Category: Site Students (High School Students)	#/%
Technology	34/38	**Technology**	43/13
Cameras (12)		Problems(20)	
Distracting(5)		Distracting(3)	
Delay(3)/Mics(14)		Delay(5)/Mics(15)	
Impersonal / Boring	15/17	**Impersonal / Boring**	42/12
		Monitor (12)/Large Course(30)	
Teacher	18/20	**Teacher**	93/27
Contact (11)		Contact (85)	
Attributes (7)		Attributes (8)	
Materials	8/9	**Materials**	45/13
Delay(5)		Delay (25)	
Grade Notification(3)		Grade Notification(20)	
Students	15/17	**Students**	16/5
Immaturity		Dominance (3)/Immaturity(7)/Lack of attention	
		Course Difficulty	21/6
		Material coverage (6)/Homework (5)	
		Test Difficulty (5)/Harder than H.S. (5)	
		Scheduling	16/5
		Class conflicts (12)/Need more classes(2)	
		H.S. Closure(2)	
		Isolation	64/19
		Lack of Interaction(30)/Involve sites(11)	
		Difficulty entering discussion(9)	
		Hard to ask questions(7)	
		Sites treated differently(4)	
		Can't view all sites(3)	
Totals	90/100	Totals	340/100

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isolation factors. Isolation factors were reported by 19 percent. Feelings of being distant, left out, and treated differently were issues that arose. Of course isolation was not even an issue for the college students. Also unique to the high school students, were the course difficulty category, 6 percent and scheduling, 5 percent. High school students also found technology, 13 percent; impersonal or boring, 12 percent; problem students, 5 percent; and materials, 13 percent to be problem issues. There were a total of 340 worst aspect responses indicating that high school students had more negative concerns than did college students. The ratio of "worst" comments to number of students taking the survey was higher for high school students. College students made 90 comments (N=258). High school students made 340 comments (N=368).

Table 4 presents comparative data from the question, "What is it about the teacher you like the most?" There was a tremendous degree of similarity between college and high school student's responses in this question. For example, The highest response category was in the area of teacher traits with 52 percent for college and 50 percent with high school students respectively. The subcategories were also very similar. Relationship qualities (between teacher & students) were also similar with 29 and 21 percent respectively. Presentation or teaching style was similarly reported with 19 and 24 percent respectively. The college students reported a few more issues pertaining to justice such as "fair and unbiased." The high school students had two unique categories of using technology 1 percent and course materials and handouts 3 percent. For both categories of students responses to what they like about the teacher were numerically high with 207 from college students and 466 from high school students. This ratio of comments to number of students is much high than that found in the "worst" data: 207/258 college and 466/368 high school

Table 5 presents comparative data from the question, "What would you change about the teacher?" By far the most commonly reported category was teacher presentation with 42 percent college and 38 percent high school. Both categories of students reported more interaction as their most common suggestion followed by pace and clarity. The second highest category was test preparation with 24 percent college and 21 percent of high school responses. The remaining categories were also very similar including: teacher, 15 & 12 percent; relationship qualities, 10 & 13 percent; and course materials, 9 & 16 percent respectively. Notice that the overall number of responses was relatively low with 59 and 158 respectively.

Table 6 presents comparative data from the question, "What 3 personal strategies helped you the most in this course?" In all of the categories there was notable similarity in the proportion of responses. This included: study, 16 & 19 percent; take notes, 18 & 18 percent; attendance, 19 &12 percent; attentiveness, 11 & 13 percent; class participation, 5 & 2 percent; ask questions, 2 & 2 percent; do readings, 7 & 9 percent; use teacher provided resources, 10 & 5 percent; and student skills, 12 & 21 percent; respectively. These factors are all part of what we consider to be basic student skills. The similarity between college and high school students in this area was the first indication to us that the students were similarly capable of succeeding in a college course and similarly capable of identifying what it takes to succeed. The responses to this question were higher than for any other with 333 college and 954 high school responses.

Table 4: Like About Teachers

Category: On Campus (College Students)	#/%	Category: Site Students (High School Students)	#/%
Teacher	108/52	**Teacher**	228/50
Humor / Funny (14)		Humor / Funny (71)	
Enthusiastic (26)		Enthusiastic (47)	
Knowledgeable / Smart (46)		Knowledgeable / Smart (59)	
Interesting (17)		Interesting (42)	
Likes subject (5)		Open Minded (9)	
Relationship Qualities	60/29	**Relationship Qualities**	96/21
Friendly, cares, willing, etc (30)		Respect, understand, listens, cares (59)	
Fair (5)		Likeable, laid back, etc. (37)	
Unbiased (8)			
Nice (7)			
Likeable, laid back, personality (12)			
Presentation	39/19	**Presentation**	112/24
Organized / Prepared (6)		Organized / Prepared (13)	
Covers information (13)		Uses methods other than lecture (15)	
Good style (20)		Good style (21)	
		Involves everyone-sites (12)	
		Explanations clear (51)	
		Uses Technology	6/1
		Course Materials	14/3
Totals	207/100	**Totals**	466/100

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Table 5: Change About Teachers

Category: On Campus (College Students)	#/%	**Category: Site Students (High School Students)**	#/%
Teacher	9/15	**Teacher**	19/12
Enthusiasm (3)		Enthusiasm (19)	
Better voice inflections (6)			
Relationship Qualities	6/10	**Relationship Qualities**	21/13
Respect (4)		Respect (21)	
Patience (2)			
Presentation	25/42	**Presentation**	60/38
Clearer Explanations (2)		Clearer Explanations (9)	
Less ambiguity (1)		Less ambiguity (10)	
Pace (6)		Pace (15)	
More Interaction (13)		More Interaction (20)	
Topic/ choice/ depth (3)		Topic/ choice/ depth (6)	
Test Preparation	14/24	**Test Preparation**	33/21
Course Materials	5/9	**Course Materials**	25/16
Study guide (4)		Visuals (4)	
Text (1)		Study guide (16)	
		Text (3)	
		Syllabus (2)	
Totals	59/100	Totals	158/100

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Table 6: Study Strategies

Category: On Campus (College Students)		Category: Site Students (High School Students)	
Strategy	**# / %**	**Strategy**	**# / %**
Study	54/16	**Study**	179/19
Take Notes	60/18	**Take Notes**	170/18
Attendance	63/19	**Attendance**	114/12
Attentiveness Listening (29) Pay Attention (8) Stay Awake (0)	37/11	**Attentiveness** Listening (69) Pay Attention (44) Stay Awake (11)	124/13
Class Participation	16/5	**Class Participation**	23/2
Ask Questions	7/2	**Ask Questions**	15/2
Do Readings	22/7	**Do Readings**	82/9
Use Teacher Provided Resources Study Guide (12) Packets (3) Visuals (1) Assignments (16)	32/10	**Use Teacher Provided Resources** Study Guide (21) Packets (10) Visuals (0) Assignments (18)	50/5
Student Skills Memorization (1) Punctuality (4) Not Procrastinate (3) Manage Time (4) Prepare for Tests (9) Get To Know Teacher (4) Study Group (17)	42/12	**Student Skills** Memorization (9) Punctuality (24) Not Procrastinate (24) Manage Time (13) Prepare for Tests (33) Get To Know Teacher (0) Study Group (39) Prepare For Class (9) Personal Organization (6) Get Excited/Serious Abt. Course (21) Relax (5) Enjoy the Course (5) Flash Cards (9)	197/21
Totals	333/100* *Rounding*	Totals	954/100* *Rounding*

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The findings from Tables 1-6 provided helpful insight into the current needs and issues pertaining to our interactive students. They allowed us to make other research decisions from an informed point of view. The following conclusions may be drawn from those findings: first, high school students value interactive classes more than college students. High school students have a deeper history with interactive courses and currently take more classes. Ironically, high school students value interactive classes more than college students yet, do not perform as well as college students taking the same class. This may be because college students share the classroom with the instructor; because college students have more college experience; or because interactive course are more like traditional college courses-lecture based. This may disadvantage high school students who are not fully weaned from the more nurturing high school learning environment.

Second, high school students self-select into interactive courses. They probably see the courses as a jump start to their college career which also fills their obligations for high school graduation. Many college students have no idea that they have signed up for an interactive class until they attend the first day. To them it is scheduling as usual. High school students were also more likely to report extra benefits from interactive classrooms, especially college credit. They also reported the same benefits from college courses that college students reported.

Third, high school students reported unique worst aspects of interactive courses, especially the feelings of isolation, scheduling, and difficulty of taking the course. For many high school students, they are new at it, or relatively inexperienced at it, and have to learn from a TV monitor version of the lecture. Forth, high school and college students share many similar perceptions as they relate to positive attributes of teacher; what they would change about the teacher; and their strategies for succeeding in the interactive class. Yet the high school students perform worse than the college students. We were lead at this point to survey the interactive teachers. How did their perceptions compare to those of the students?

During the Summer 1998 Second Annual Interactive Teaching Seminar, held at UVSC, teachers were surveyed (prior to seeing student results) in similar topic areas as the students. Fourteen teachers filled out the open ended survey (see appendix for copy of teacher survey) and the results were compared and contrasted to the student results. The teachers each come from a different discipline with between 1 and 7 years interactive teaching experience. Tables 7-13 present the teacher data below. In Table 7 we see the teacher responses to the student strategy issue. Teachers also responded with a theme of basic student skills. Attend, read, participate, do the assignments, take notes, and listen were listed. This basic skills theme was also found in Table 8 which specifically addresses the best three study strategies. Read the text, take careful notes, study, participate, and listen were listed. These ranked responses coincide with what the students themselves reported (see Table 6).

Table 7: Teacher's Responses to the Question: *"What are the three most important strategies your students should employ if they want to succeed in your interactive course?"* Category(Number of times response reported)
Attend (10)
Read the material (6)
Participate (5)
Do the assignments (5)
Take Notes (3)
Listen (2)
Pay attention (2)
Study skills (2)
Have proper foundation (1)
High motivation (1)
Learning key terms (1)
Outside study (1)
Manage time (1)
Write critically (1)
Attitude (1)
Preparation (1)
Apply knowledge to life (1)

Table 8: Teacher's Responses to the Question: *"What three study skills will be the most valuable to your students?"* Category(Number of times response reported)
Read the text (12)
Take careful notes (6)
Study (5: alone-2, with other students 2, their own notes 1)
Participate in class (5)
Listen in class (3)
Follow instructions on assignments (1)
Write (1)
Understand concepts (1-)
Time management (1)
Emotional tie to cognitive information (1)
Self-awareness (1)

We see in Table 9 that there was not a common theme in connecting with the site students, but rather an extended list of strategies that the teachers use. Each teacher uses his or her own style and adapts to the unique challenges of interactive teaching. We were impressed that 14 teachers could provide us with 30 strategies. It indicates a certain level of teacher commitment to

interactive delivery. It also indicates an active engagement in dealing with one of the major concerns listed by the site or high school students-that of isolation (see Table 3). In Table 10 we have similar self-assessed positive teacher traits as those reported in Table 4 by the students. Humor, being personal, enthusiasm, knowledge, and easy going-laid back just to mention a few. It was also interesting that one teacher candidly reported that "I'm not sure they like anything about me."

The data in Table 11 correlate with the student data in Table 5. As was noted above relatively few comments were made by students about what to change about their teacher. Perhaps this was out of ignorance or lack of experience on their part. Our 14 teachers are relatively new at interactive teaching, and may be just as ignorant or inexperienced in criticizing it as were the students. They could only come up with 14 comments total in answering the question. Four teachers reiterated the student reported complaint about challenging exams. This finding is grounded in a greater dilemma our teachers face every day-that is, "I want to pioneer interactive teaching without compromising college rigor." Tables 12 and 13 let us see into the perceived likes and dislikes which teachers have about interactive teaching. Table 12 has similar likes to those reported by students (see Table 2). The teachers like the technology. We have heard a few comment that they are spoiled by all the high tech equipment and hate to go back to the regular classroom. Teachers also like the humanitarian component of reaching out to more students. They also liked the challenge. Although we have not studied it yet, one questions how the many forms of distance learning, as a new challenge to teachers, might intervene in various ways in the burn out process and perhaps buffer or protect in some way. Finally, in Table 13 "what is the worst aspect of interactive teaching?" Our teachers reported that the impersonal factors were the worst part. That included a category of lack of direct contact with students and not getting to know them. Similar complaints were made by high school students in Table 3. Logistics pertaining to assignments were the second most common dislike. The third was not being able to see all the sites at once. This is particulary difficult in our system where we have 25 sites, and more coming on line.

Table 9: Teacher's Responses to the Question: *"What are your three best strategies for connecting with your students at the sites?"*

Category(Number of times response reported)
Poll sites for questions (4)
E-mail (2)
Use their names (2)
Humor (2)
Group work (1)
Greet them each morning (1)
Mention notable things about their schools (1)
Review exams (1)
Ask sites to respond to upcoming question, pass if they choose to (1)
Telephone (1)
Create an open atmosphere (1)
Use their first names (1)
Be enthusiastic (1)
Use good graphics (1)
Save time each day for their questions (1)
Emotional reinforcement (1)
Use worksheets to reinforce the critical concepts (1)
Sharing personal experience relating to material (1)
Let them share personal experience (1)
Ask them personal questions (1)
Give extra credit for correct answers to my questions (1)
Eye to eye contact (1)
Outline lecture material (1)
Genuine interest in them (1)

Table 10: Teacher's Responses to the Question: *"What do your students <u>like</u> about you as a teacher?"* Category(Number of times response reported)
My humor (2) I'm personal (2) My enthusiasm for the subject (2) My knowledge of subject matter (1) I'm easy going (1) I'm "perky" (1) I'm open minded (1) I'm tough but fair (1) It's a very interesting topic (1) My examples and stories (1) My organization (1) I'm not sure they like any thing about me (1)

Table 11: Teacher's Responses to the Question: *"What do your students <u>dislike</u> about you as a teacher?"* Category(Number of times response reported)
Challenging exams (4) I make them think (1) I'm too sarcastic (1) It's a fast paced course (1) I'm flexible (1) I get distracted & loose focus (1) My cocky attitude & sarcasm (1) Progress reporting (1) They think that I'm easy (1) Too much material to cover (1) Obvious when I'm not prepared (1)

Table 12: Teacher's Responses to the Question: *"What are the three <u>best</u> aspects of interactive teaching?"* Category(Number of times response reported)
Technology (9) It reaches more (9: students 6 & sites 3) I'm learning new things/challenges (4) Watching more students succeed (2) Support staff for developing materials (2) New opportunities (2) Meeting new people (1) Interchange of ideas at each site (1) Money (1)

Table 13: Teacher's Responses to the Question: *"What are the three worst aspects of interactive teaching?"* Category(Number of times response reported)
It's impersonal (9: lack of direct contact & don't get to know students 1)
Lag time (7: tests and assignments, attendance)
Can't see all sites at once (3) Test security (2)
Big classes (2)
Testing (2)
Don't know what students are doing at sites during lectures (2)
Working with facilitators (2)
No assessment of incoming students (1)
High school administrators (1)
Paper load (1)
Watching students fail at a distance and feeling powerless to stop it (1)
Technical problems (1)

After having considered the findings from the student survey and compared them to the findings from the teacher survey, we began to wonder if the high school students were less ready for the rigors of college and distant interactive learning. We observed certain themes from our findings. These include: basic college skills, self-discipline, college rigor, paying attention in class, and a few other less pertinent issues. Could it be that our high school students are simply not as ready or prepared for our interactive courses? They are still high school students (and therefore not yet college students) who have to learn from a less nurturing lecture based pedagogical approach, who have to learn from an impersonal TV monitor, who lack the nonverbal and class room atmospheric nuances of the learning experience, and who are literally and sometimes mentally as far as 100 miles from the teacher.

If readiness is an issue in this scenario then we should be able to develop an instrument which allows both the teacher and the student to be made aware of this lack of readiness and intervene in some way. We consulted the Internet, national distance learning literature, and college success literature and came up with a 67 question Student readiness Questionnaire (SRQ). This questionnaire is still in the developmental stages but it has already allowed us to look into the student's experience with more clarity. We anticipated the following 6 objectives by developing and using the SRQ: first, to increase student awareness; second, to provide teachers with a general estimation of overall class readiness, strengths, and weaknesses; third, to provide teachers with individual information about a given student's readiness, strengths, and weaknesses; fourth, to start and maintain the dialog of readiness and preparedness between teachers and students; fifth, to socialize students more efficiently into the "successful college student"role; and sixth, to facilitate institutional support for 1-5 above. The questions in the SRQ are ordered into five conceptual categories of readiness which are as follows: Questions 1-21= Individual readiness & student disposition; Questions 22-36=Classroom skills readiness; Questions 37-50=General student efficiency readiness; Questions 51-57=Technology user readiness; Questions 58-64=General college readiness; and Questions 65-67=Demographic questions.

Our first study of the SRQ was in Fall, 1998. It was administered to every interactive student-high school and college. Each teacher was made aware of the study, its purpose, and intended

use. Seven interactive day sections (day sections have the high school students) were given the SRQ. We collected 858 completed surveys from a potential pool of 1,002 students (representing an 86% response rate). Three of the sections were randomly selected as intervention sections. That is, we planned to run analysis using the SRQ results and then provide those results to the teachers. Those three teachers, in turn would take a portion of their lectures to address the uncovered weaknesses or strengths and try to elevate the student's readiness if possible. This part of the study did not come off as planned. After we ran the analysis we had a very surprising discovery. There were few significant differences between college and high school students in 5 out of the 6 conceptual areas in the SRQ. In fact our high school and college students looked very similar on their scores, with one exception, college readiness. Our high school students scored significantly lower in the area of college readiness. We openly acknowledge these methodological concerns and suggest that the preliminary findings be considered in light of them.

Confounding these results was as extemely high level of missing data. The SRQ is on the front and back of one page. We think that students had run out of interest by the time they turned the page. We are still in the process of standardizing and validating the SRQ. That is one reason why it is not included in this report. Future studies, those currently in the works, include the following: a population study of all interactive students in a given semester (with a reward for completion of the entire SRQ); a study pairing the SRQ with a psychological maturity scale, student high school GPA and student ACT scores; and a reworking of the original study with teacher intervention strategies.

Let's summarize the findings from the three research studies mentioned above and discuss some of their implications. First, high school students had more complaints about interactive learning yet, more compliments of teachers than did college students. Second, high school and college students could identify the importance of basic student skills needed to succeed in an interactive class. Third, high school students value interactive classes more than college students yet, do not perform as well as college students. Interactive classes are viewed as a jump start to high school students careers and also allow them to receive high school graduation credit at the same time. Fourth, high school students reported feeling isolated and finding the interactive course to be hard or challenging. Fifth, teacher feedback was similar to student feedback. Both identified the importance of having the basic student skills if students want to succeed in interactive settings. At one level, minimum basic skills help you to survive and at another, mastery of those skills help you to succeed.

Sixth, teacher efforts to engage site students were diverse and lacked a central theme. This indicates to us that we are all still new at this service and that our teachers, in their own unique ways connect with students as best they can. They also would have some level of commitment to interactive teaching in order to respond as they did. Seventh, interactive teachers face a dilemma of wanting interactive students and interactive teaching to succeed while maintaining the rigor of college learning. Eight, both teachers and students like the technology and are pleased that it extends college to students who otherwise could not access it. Ninth, our findings lead us to question the preparedness or readiness of high school interactive learners. High school students must be as ready if not more so than college interactive learners because they will learn through a TV monitor at a distance from the teacher. We suspect that they are not as prepared and we are still working to establish or refute that claim. Tenth, our first assessment of the SRQ provided

week and unreliable results. This study will be repeated and other studies will follow using the SRQ. Students, teachers, and administrators would greatly benefit by being able to pre-assess interactive students (or any other distant learners) and intervene as well as inform.

In conclusion, distance learning is the wave of the future, comparable to a mild tsunami in its timing and impact. It is uncharted teaching and learning territory which challenges students and teachers in many unique ways. It requires careful scientific consideration and attention, as it develops and becomes established. Our research over the last 2 years has been in the interactive teaching and learning arena, especially as it relates to high school and college students. We have followed the research process from basic assessment of students and teachers to the development of a readiness assessment instrument. We are still in that phase of the research. Very few instruments of this nature are found in the distance learning literature today. We claim that more need to be developed. Given the diverse experiences of Internet, telecourse, and interactive learning combined with the infinite diversity of students who are taking these courses, there may be a great deal of support for our claim.

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APPENDIX

Copies of

Example of Interactive student Survey Administered Spring, 1998
Example of Interactive Teacher Survey Administered Summer, 1998

Utah Valley State College
UVNet Course Evaluation Spring, 1998

Purpose: UVSC strives to improve course delivery and instruction. We need your help. As a student currently enroled in a distance learning class you have insights which can help us.

Instructions: DO NOT PUT YOU NAME ON THIS FORM. Please respond to each item thoughtfully. After completing this survey, please return it to your facilitator. This survey will remain completely anonymous and will not effect your grade.

1. List all UVNet courses for which you are enrolled?

2. Write your expected grade beside each course listed for # 1 above.

3. List all distance learning courses you have taken prior to this semester.

4. Fill in the circle associated with the appropriate response.
Your gender: Male O Female O

5. Fill in the circle associated with the appropriate response.

High School Junior O	College Freshman O	College Junior or Above O	
High School Senior O	College Sophomore O	Certification Program O	Other O

6. For you what is the single best aspect of a distance learning course?

7. For you what is the single worst aspect of a distance learning course? What could we do differently to help you?

8. What is it about the teacher you like the most? What would you like to see the teacher do differently?

9. What 3 personal strategies helped you the most in this course?

10 What would you do differently if you took another distance learning course?

Do you have any other comments or suggestions?

Instructor Survey For Seminar, 1998

1. What are the three most important strategies your students should employ if they want to succeed in your interactive course?

1.
2.
3.

2. Which three study skills will be the most valuabule to your students?

1.
2.
3.

3. What are your three best strategies for connecting with your students at the sites?

1.
2.
3.

4. What do your students like about you as a teacher?

5. What do your students dislike about you as a teacher?

6. What are the three ***best*** aspects of interactive teaching?

1.
2.
3.

7. What are the three ***worst*** aspect of interactive teaching?

1.
2.
3.

8. What can the Distance Learning staff ***begin*** to do to better meet your interactive teaching needs?

9. What can the Distance Learning staff ***cease*** doing to better meet your interactive teaching needs?

10. How many interactive sections have you taught?

11. Based on your interactive teaching experience, what would you do differently in future sections?

12. Would you like to have individual and collective insight into where your interactive students stand in terms of their readiness to take your course? ___**YES**___**NO**